Assessing the Contribution of Surface Land Observations in CPTEC/INPE G3DVAR

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The Center for Weather Forecast and Climate Studies from the Brazilian National Institute for Space Research (CPTEC/INPE) replaced its former data assimilation system, the Global Physical-Space Statistical Analysis System (GPSAS) by the Global 3DVar (G3DVAR). The latter is based on the Gridpoint Statistical Interpolation (GSI) jointly developed by NOAA, NASA and NCAR, implemented on the Atmospheric Global Circulation Model developed at the CPTEC/INPE (AGCM/CPTEC/INPE). The new system, operational at CPTEC since January 2013, assimilates a variety of conventional and non-conventional observations every 6 hours.

CPTEC/INPE's Group on Data Assimilation Developments (GDAD) is improving the system in an effort to use the observational data sets available at the center, for instance a surface observing system available from the Brazilian National Institute of Meteorology (INMET). Part of this observing system is present in the Global Telecommunication System (GTS) and, consequently, is being ingested operationally in the G3DVAR analysis whereas a substantial number of observations is yet to be included. This presentation will discuss practical aspects of the inclusion of this observing system of conventional observations into CPTEC/INPE G3DVAR. Furthermore, this presentation will show preliminary results using all operational data used by G3DVAR in the presence of this new observing system.